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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,542	07/20/2001	James J. Alwan	2269-7134.1US(95-0654.01/	3046

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

**Office Action Summary**

Application No.

09/910,542

Applicant(s)

ALWAN ET AL.

Examiner

Karabi Guharay

Art Unit

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-- **Th MAILING DATE of this communication appears on the cov r sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE, filed on 5 April 2006.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-18 and 31-38 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 11-18 and 31-38 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 4/5/06.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 April 2006 has been entered.

***Response to Amendment***

Amendments of claims 11 & 31 have been considered and entered. Claims 21-28, & 39-46 are cancelled. Currently claims 11-18 & 31-38 are pending.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claim 11 recites "an array of emitter tips overlying the conductor layer" which is not described or supported by the disclosure.

Drawings show a conductive layer 36 overlies the cap layer and emitter tips are formed from the conductive layer. Emitter tip is an extension (or protruded part) of the conductive layer, thus emitter tips are overlying the cap layer not overlying the conductive layer. Since emitter tips are integral part of conductive layer 36.

Specification also describes that emitter tips are fabricated from the conductive layer.

Thus amended claim limitation of having a conductive layer formed overlying the cap layer then forming an emitter tip on the conductive layer, thus overlying the conductive layer, is not described in the disclosure.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-13, 15, 17-18, 21-23, 25, 27-28, 31-33, 35, 37-41, 43, 45-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Westphal et al. (US 5656886).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 11-12, 15, 17, Westphal et al. disclose an improved cathode substrate (see Fig 3 & Fig 4) for a field emission display comprising a substrate 18, made of soda-lime glass (lines 51-53 of column 3), a cap layer (20, 22) disposed on the substrate (18), the cap layer comprising a cap material layer (20) comprising silicon dioxide (line 10 of column 3), and an anti-reflecting coating (layer 22, made of amorphous silicon (lines 54 of column 3) which is an anti-reflective material) overlying the cap material layer (20), a conductive layer (28) overlying the cap layer (Fig 3) , an array of emitters (32) overlie the part of conductor 28 formed on the hole 26 .

Regarding claims 31-32, 35, 37, Westphal et al. disclose an improved cathode substrate (see Fig 3 & Fig 4) for a field emission display comprising a substrate 18, made of soda-lime glass (lines 51-53 of column 3), a cap layer (20, 22) comprising a cap material layer (20), made of silicon dioxide (line 10 of column 3) and a light blocking layer 22 (layer 22 is made of formed of polycrystalline silicon or amorphous silicon (lines 54-55 of column 3) which is a light blocking material), a conductive layer (28) directly overlies the cap layer (see Fig 3) and an array of emitter tips (32) overlying the cap.

Referring to claims 13, 18, 33, 38, it is noted that the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Claims 11, 13, 15, 17, 18, 31, 33, 35, 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Taylor et al. (US 5557159).

Regarding claims 11, 15, 17, Tayler et al. disclose a cathode (emitter plate 60) for a field emission device (Fig 3 & 4), comprising a substrate (66), made of glass, a cap layer (64 & 68) disposed on the substrate, the cap layer comprising a cap material layer

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(64) made of silicon dioxide and an anti-reflective coating layer 68 (layer 68 is made of amorphous silicon, which is an anti-reflecting material), a conductive layer (78) overlying the cap layer and an array of emitter tips (70) overlying the conductive layer (78, lines 22-31 of column 6, and lines 5-40 of column 7).

Regarding claims 31, 35 & 37, Tayler et al. disclose a cathode (emitter plate 60) for a field emission device (Fig 3 & 4), comprising a substrate (66), made of glass, a cap layer (64 & 68) disposed on the substrate, the cap layer comprising a cap material layer (64) made of silicon dioxide and a light blocking layer 68 (layer 68 is made of amorphous silicon, which is light blocking material), a conductive layer (78) overlying the cap layer and an array of emitter tips (70) overlying the conductive layer (78, lines 22-31 of column 6, and lines 5-40 of column 7).

Referring to claims 13, 18, 33, 38, it is noted that the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 14,16, 34,36 are rejected under 35 U.S.C. 103(a) as being obvious over Westphal et al. as applied to claim 11.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Referring to claims 14 & 34, Westphal et al. disclose a cathode substrate including a cap layer 20. However, Westphal et al. are silent as to the thickness of the cap layer 4. The specification of a suitable thickness is within the skill of the art. It would have been obvious to specify a suitable thickness for the cap layer 4, because changes in size are generally considered to be within the skill of the art.

Regarding claims 16 and 36, Westphal et al. disclose that the substrate is made of glass, however, plastic material is widely used for substrate in a display device. Glass and plastic are art recognized equivalent material for the substrate.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use plastic material as the substrate since selection of known material for known purposes is considered to be within the skill of the art.

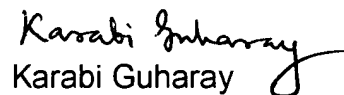
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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Karabi Guharay  
Primary Examiner  
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